AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the Application.

Listing of Claims:

1. (previously presented)   A storage management system on a computer comprising a volume provider to map a logical storage volume onto one or more storage devices of a storage subsystem, wherein the volume provider presents an application programming interface (API) to applications on the computer, the API for receiving first desired behavioral attributes of the logical storage volume, and wherein the volume provider maps the logical storage volume based on first desired behavioral attributes received from a first application and second desired behavioral attributes previously received via the API from a second application.

2. (previously presented)   The storage management system of claim 1 wherein the first desired behavioral attributes includes data availability desires including a desired level of fault tolerance.

3. (previously presented)   The storage management system of claim 1 wherein the first desired behavioral attributes include intended input/output patterns for accessing the logical storage volume.

4. (currently amended)   The storage management system of claim 3 wherein the ~~access~~ intended input/output patterns indicate whether the volume is primarily intended for sequential reads and sequential writes.

5. (previously presented)   The storage management system of claim 1 wherein the first desired behavioral attributes include optimization preferences.

6. (previously presented)   The storage management system of claim 1 wherein the volume provider resolves conflicts between the first desired behavioral attributes and the second desired behavioral attributes.

7. (previously presented) The storage management system of claim 1, wherein the first and second applications have no knowledge of the physical characteristics of the one or more storage devices of the storage subsystem.

8. (currently amended) The storage management system of claim 7 wherein the second application is an administrative tool that issues the second desired behavioral attributes to the volume provider in response to input from an administrator.

9. (previously presented) The storage management system of claim 3 wherein the volume provider monitors actual access patterns and reconfigures the volume in response to changes in the actual access patterns and the intended input/output patterns.

10. (original) The storage management system of claim 1, wherein the API conforms to a Component Object Model (COM) interface.

11. (previously presented) A method for managing one or more storage volumes of a storage subsystem by a computer comprising:

receiving, via an application programming interface (API) presented by a volume provider to applications on the computer, first storage access information that characterizes desired volume behavioral attributes of one or more storage volumes from a first application;

receiving, from a second application via the API, second storage access information that characterizes desired volume behavioral attributes of one or more storage volumes; and

configuring, by the volume provider, one or more storage volumes of the storage subsystem as a function of the first and second storage access information and physical characteristics of the storage subsystem.

12. (previously presented) The method of claim 11 wherein receiving first storage access information includes receiving data availability desires including a preferred level of fault tolerance.

13. (previously presented)   The method of claim 11 wherein receiving first storage access information includes receiving intended access patterns.

14. (original)   The method of claim 13 wherein receiving the intended access patterns includes receiving whether a volume is primarily intended for sequential reads or sequential writes.

15. (previously presented)   The method of claim 11 wherein receiving first storage access information includes receiving configuration parameters including a request size.

16. (previously presented)   The method of claim 11 wherein receiving first storage access information includes receiving optimization parameters.

17. (previously presented)   The method of claim 16 and further including monitoring accesses of the configured storage volumes by the first application.

18. (previously presented)   The method of claim 16 and further including reconfiguring the storage volumes based on the monitored accesses and the received first_storage access information.

19. (previously presented)   The method of claim 11 wherein configuring includes resolving conflicts between the first and second_storage access information.

20. (previously presented)   The method of claim 11, wherein receiving the first storage access information includes receiving the first storage access information via the application programming interface (API) that conforms to a Component Object Model (COM) interface.

21. (previously presented)   A computer-readable medium having computer-executable instructions to cause a computer to perform a method of:

receiving, from a first application via an application programming interface (API) presented by a volume provider to applications on the computer, first storage access information that characterizes desired volume behavioral attributes of one or more storage volumes when stored on a storage subsystem;

receiving, from a second application via the API, second storage access information that characterizes desired volume behavioral attributes of storage volumes; and

configuring, by the volume provider, one or more storage volumes of the storage subsystem based on the first and second storage access information.

22. (previously presented)   The computer-readable medium of claim 21 further including computer-executable instructions to cause the computer to further perform the method:

monitoring accesses of the configured storage volumes by the application; and

reconfiguring one or more-storage volumes based on the accesses and the received first and second storage access information.

23. – 28. (canceled)

29. (previously presented) The storage management system of claim 1, wherein the first and second desired behavioral attributes are selected from a set of predefined behavioral attributes that are independent of physical characteristics of storage devices.

30. (previously presented) The storage management system of claim 29, wherein the set of predefined behavioral attributes includes a fault tolerance attribute, a fast crash recovery required attribute, a removable attribute, an optimize for sequential reads attribute, an optimize for sequential writes attribute, an optimize for mostly reads attribute, a reconfiguration allowed attribute, an expected maximum size attribute, an optimal read size attribute, an optimal read alignment attribute, an optimal write size attribute, an optimal write alignment attribute, a maximum number of spindles attribute, an interleave size attribute, and a rebuild priority attribute.

31. (previously presented) A method for configuring a logical volume onto a storage device comprising:

receiving, by an application programming interface (API) exposed by a volume provider to applications on a computer, first desired behavioral attributes for the logical volume from a first application, the first desired behavioral attributes independent of storage device physical characteristics;

receiving, by the API, second desired behavioral attributes for the logical volume from a second application on the computer; and

configuring the logical volume based on the first and second desired behavioral attributes and storage device physical characteristics of a storage system.

32. (previously presented) The method of claim 31 further comprising:

resolving conflicts between the first desired behavioral attributes and the second desired behavioral attributes.

33. (previously presented) The method of claim 31 further comprising:

reporting to the first application an actual configuration of the logical volume.

34. (previously presented) The method of claim 31 further comprising:

monitoring access patterns of the logical volume;

comparing the access patterns of the logical volume to the first and second desired behavioral attributes; and

reconfiguring the logical volume if the access patterns differ from the first or second desired behavioral attributes.

35. (previously presented) The method of claim 31 wherein configuring comprising:

storing configuration rules associating desired behavioral attributes with logical volume configurations based on the storage device physical characteristics; and

configuring the logical volume based on the first and second desired behavioral attributes, the configuration rules, and the storage device physical characteristics.

36. (previously presented) The method of claim 31 further comprising:

determining, by the first application, first desired behavioral attributes of the logical volume.